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## **ABSTRACT**

**PURPOSE:** To observe changes in fundus autofluorescence (FAF) 2 years after implantation of blue light-filtering (yellow-tinted) and ultraviolet-light filtering (colorless) intraocular lenses (IOLs).

**SETTING:** Department of Ophthalmology and Visual Science, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan, and the Department of Ophthalmology, University of Bern, Bern, Switzerland.

**DESIGN:** Prospective, multicenter, comparative, observational study.

**METHODS:** Patients were enrolled who had undergone cataract surgery with implantation of a yellow or colorless IOL and for whom images were obtained on which the FAF was measurable using the Heidelberg Retina Angiogram 2 postoperatively. The FAF seen in the images was classified into eight abnormal patterns based on the classification of the International Fundus Autofluorescence Classification Group; the presence of normal FAF, geographic atrophy (GA), and wet age-related macular degeneration (AMD) also was recorded. The fundus findings at baseline and 2 years

postoperatively were compared.

**RESULTS:** Fifty-two eyes implanted with a yellow IOL and 79 eyes with a colorless IOL were included. Abnormal FAF did not develop or increase in the yellow IOL group; however, progressive abnormal FAF developed or increased in 12 (15.2%) eyes in the colorless IOL group ( $P=0.0016$ ). New drusen, GA, and choroidal neovascularization were observed mainly in the colorless IOL group. The incidence of AMD was significantly ( $P=0.042$ ) higher in the colorless IOL group.

**CONCLUSIONS:** Two years after cataract surgery, significant differences were seen in progression of abnormal FAF between the two study groups. The incidence of AMD was lower in eyes implanted with a yellow IOL. FAF imaging after cataract surgery has a possibility of showing the risk of AMD progression in the colorless IOL implanted eyes in the future.